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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,679

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Klaus Hahn

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EXAMINER

NEGRELLI, KARA B

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

06/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,679	Applicant(s) HAHN ET AL.	
	Examiner KARA NEGRELLI	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 and 10-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/06/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

MOLDABLE-FOAM MOLDINGS COMPOSED OF EXPANDABLE STYRENE
POLYMERS AND MIXTURES WITH THERMOPLASTIC POLYMERS

DETAILED ACTION

Election/Restriction

1. Applicant's election with traverse of claims 7-9 in the reply filed on May 7, 2009 is acknowledged. The traversal is on the ground(s) that since the International Search Report did not report lack of unity of invention, the unity of invention requirement is fulfilled and any reliance upon independence or distinctness of the invention is not relevant under the PCT. This is not found persuasive because the ISR is only for the purpose of identifying prior art (MPEP 1843.05) and is nonbinding on the Office (MPEP 1893.03(e)). If the examiner finds that a national stage application lacks unity of invention, the examiner may require an election (MPEP 1893.03(d)). Claims 1-6 and 10-17 are withdrawn from consideration.
2. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US 4,098,941) and further in view of Glück et al. (US 6,340,713).

5. Johnson teaches molten polystyrene polymer products which are produced by incorporating a foaming agent into a pelletized solid thermoplastic material (pelletized polystyrene, column 5, lines 29-30) (rendering the material expandable) (column 5, lines 20-22). The polymer further comprises an absorbent such as alumina, clay, silica, or activated carbon (graphite) (column 5, lines 20-23 and 38-42) in an amount of 0.1 to 15%, preferably 0.5 to 10%, and up to 30% by weight of the polymer (column 5, lines 42-45). The foaming agent is present in an amount of 0.1 to 15% by weight based on the polystyrene to be expanded (column 5, line 68 to column 6, line 2).

6. The amount of absorbent of Johnson overlaps the amount of filler in instant claim

7. The amount of blowing agent of Johnson overlaps the amount of blowing agent of instant claim 9. It is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

7. Johnson does not expressly teach using a combination of the listed absorbents, such as silica or alumina and activated carbon (graphite). However, "it is prima facie obvious to combine two compositions each of which is taught by the prior art to be

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useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art.” *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US 4,098,941) and further in view of Glück et al. (US 6,340,713) and Tung et al. (US 6,214,897).

9. Johnson teaches the molten polystyrene polymer products as applied to claim 7, but does not expressly teach that the polymer further comprises from 2 to 40% by weight of expandable graphite with an average particle size from 10 to 1000 μm .

10. However, Glück et al. teach expandable styrene polymers comprising graphite particles (column 2, lines 1-6). The graphite used has a mean particles size of from 1 to 50 μm (column 2, line 36-37). The graphite particles are preferably present in the styrene polymer in amounts of from 0.05% to 25% by weight (column 2, lines 40-42). The expandable styrene polymers further comprise from 3 to 10% by weight, based on the weight of the polymer, of a blowing agent (column 3, lines 61-62).

11. It would have been obvious for one of ordinary skill in the art at the time the invention was made to use graphite particles, as taught by Glück et al., in the palletized thermoplastic polymer (styrene) of Johnson because the expandable products of Glück et al. which contain graphite particles have reduced thermal conductivity (column 4,

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lines 20-23). Furthermore, when moldings are formed from the expandable styrene polymers of Glück et al., the addition of graphite particles to the polymers leads to a shortening of from 10 to 90% in the cooling time until welded materials can be removed from the mold (column 4, lines 13-16).

12. Glück et al. teach do not expressly teach that the graphite is expandable.

However, Tung et al. teach a foamable polymer composition comprising 1 to 10 parts by weight blowing agent (based on 100 parts by weight polymer composition) (column 10, lines 26-30), 0 to 60 parts by weight (based on 100 parts polymer composition) of a filler such as a silicate filler, aluminum oxides, chalk, or clay (column 10, lines 55-65), and a flame retardant such as phosphates, red phosphorous (column 10, lines 42-43), expandable graphite (column 10, line 49), or mixtures thereof (column 10, lines 50-54).

13. It would have been obvious to one of ordinary skill in the art to use expandable graphite as taught by Tung et al. for use in the compositions of Glück et al. and Johnson in order to enhance the flame retardant properties of the styrene products (Tung et al., column 10, lines 36-37).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARA NEGRELLI whose telephone number is (571)270-7338. The examiner can normally be reached on Monday through Friday 8:00 am EST to 5:00 pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571)272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KARA NEGRELLI/
Examiner, Art Unit 1796

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796